

### **REMARKS**

Claims 1, 3, 6, 9-13, 15, 18, and 21-33, as amended, are pending in this application. In this response, Applicants have amended certain claims. In particular, claim 1 has been rewritten in an effort to alleviate the Examiner's concerns with regard to 35 U.S.C. § 112, first and second paragraphs. In addition, the Written Description has been amended to expressly discuss subject matter previously incorporated by reference through a European publication.

As no new matter has been added by the amendments herein, Applicants respectfully request entry of these amendments at this time.

### **THE REJECTIONS UNDER 35 U.S.C. § 112**

Claims 1, 3, 6, 9-12, 13, 15, 18, 21-33 were rejected under 35 U.S.C. § 112, first paragraph, as not enabled for the reasons set forth on pages 3-5 of the Office Action. In addition, the Examiner rejected claims 1, 3, 6, 9-12, 13, 15, 18, and 21-33 under § 112, second paragraph, as indefinite as explained on pages 5-6 of the Office Action.

In response to the Examiner's comments regarding the § 112, first paragraph rejection, Applicants have rewritten the Written Description to include the material that was intended to be incorporated by reference into the application as set forth on page 7, lines 27-29. In particular, Applicants have added the portion of the European Patent Publication No. 0 674 800 that discusses the specific levels of various impurities that are considered acceptable for Zr or Zr-alloys.

As shown below, the portion now expressly included in the instant application from EP 0 674 800 is the material previously incorporated by reference through the teaching that "[e]xamples of what is considered as acceptable impurities in this context is described for example in the above mentioned document EP 0 674 800 B1." *See* Page 7, lines 27-29. Thus, the amendment to the Written Description does not introduce new matter into the instant application.

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carried out. During beta quenching, the outer part of the tube is heated to a temperature in the beta-phase range, for example 1050°C and is then rapidly cooled.

The inner component can consist of pure zirconium or consist of a zirconium-tin alloy with 0.1 to 1% tin, such as an alloy of zirconium with 0.1-0.5% tin and with an iron content less than 550 ppm, preferably 200-450 ppm and less than 600 ppm oxygen. Impurities in zirconium and a zirconium-tin alloy shall be below the limits which normally apply to reactor-grade zirconium, namely, Al 75 ppm, B 0.5 ppm, C 100 ppm, Ca 30 ppm, Cd 0.5 ppm, Cl 20 ppm, Co 20 ppm, Cu 50 ppm, H 25 ppm, Hf 100 ppm, Mg 20 ppm, Mn 50 ppm, Mo 50 ppm, N 65 ppm, Na 20 ppm, Nb 100 ppm, Ni 70 ppm, P 30 ppm, Pb 100 ppm, Si 100 ppm, Ta 200 ppm, Ti 50 ppm, U 3.5 ppm, V 50 ppm, W 100 ppm and Cr 200 ppm.

The inner component can also consist of other zirconium alloys.

A copy of the entire document of EP 0 674 800 is also included as Exhibit A for the Examiner's convenience.

Based on the amendment to the Written Description to include exactly what was previously considered incorporated by reference in the instant application by way of EP 0 674 800, Applicants respectfully submit that the portion of the claims dictating the normally accepted level of impurities that may be present in the second composition is adequately described in the Written Description such that a skilled artisan would be sufficiently enabled to practice the claimed invention in accordance with 35 U.S.C. § 112, first paragraph.

Similarly, Applicants respectfully submit that the criteria previously incorporated by reference from EP 0 674 800 and now expressly incorporated into the Written Description clearly provides the metes and bounds for normally accepted level of impurities in the second composition such that the claims are clear and definite with no further amendment.

With regard to the rejection of the claims based on the lack of a "rolling" step, which the Examiner considers critical or essential to the invention, in an effort to expedite allowance, the claims have been amended to include such a step. As such, the § 112, first and second paragraph, rejections are believed to be overcome. However, Applicants respectfully disagree with the Examiner's requirement that this step be added to the claims to satisfy the enablement

requirement or render the claims definite.

Furthermore, Applicants respectfully submit that, unlike claim 1, independent claim 13 is not directed to a method of producing a cladding tube. Rather, independent claim 13 is directed to a cladding tube. As such, it is unclear to Applicants whether the Examiner believes that there is any basis for rejection under 35 U.S.C. § 112, first or second paragraph, of claim 13 and those depending therefrom based on the lack of a rolling step.

Based on the amendments and remarks herein, reconsideration and withdrawal of the § 112 rejections is respectfully requested.

### **CONCLUSION**

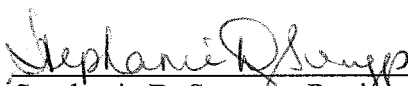
All claims are believed to be in condition for allowance. If the Examiner believes that the present amendments still do not resolve all of the issues regarding patentability of the pending claims, Applicants invite the Examiner to contact the undersigned attorneys to discuss any remaining issues.

No fees are believed to be due at this time. Should any fee be required, however, please charge such fee to Hanify & King, P.C., Deposit Account No. 50-4545, Order No. 5233-052.

Respectfully submitted,

HANIFY & KING,  
PROFESSIONAL CORPORATION

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